

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov



November 5, 2010

**TEST LABORATORY INFORMATION FOR
LARGE STORAGE WATER HEATERS**

To: Testing Laboratories that Test Large Storage Water Heaters
Manufacturers of Large Storage Water Heaters

Re: Annual Test Laboratory Application Process

Approval of Test Laboratories

Section 1603(a) of the *Appliance Efficiency Regulations* requires that large storage water heaters be tested at a laboratory that the Executive Director of the Commission determines:

- (1) has conducted tests using the applicable test method within the previous 12 months;
- (2) agrees to and does interpret and apply the applicable test methods set forth in Section 1604 of the *Appliance Efficiency Regulations* precisely as written;
- (3) has, and keeps properly calibrated and maintained, all equipment, material, and facilities necessary to apply the applicable test method precisely as written;
- (4) agrees to and does maintain copies of all test reports, and provides any such report to the Executive Director on request, for all basic models that are still in commercial production; and
- (5) agrees to and does allow the Executive Director to witness any test of such an appliance on request, up to once per calendar year for each basic model.

Applying for Approval

Test laboratory approval is valid only through the end of the calendar year shown in the signature block at the end of the application. If you would like the Executive Director to determine that your laboratory meets the criteria in Section 1603(a)(1)-(5), and to

approve your laboratory for such testing through December 31, 2011, please complete the enclosed application.

The application may be filled out on-line or printed out and completed off-line. In either case, sign and scan the signed application and all appropriate documents and attach them to an e-mail addressed to: appliances@energy.state.ca.us. If you choose this form of submittal, please indicate "2011 LS Water Heater Lab App: <Company Name>" in the subject line, where Company Name is YOUR COMPANY NAME. Alternatively, you may return the original signed application to the address shown below. We are unable to accept applications submitted by FAX. Be sure to include your signed application with all appropriate items attached and send to:

Appliance Efficiency Program
2011 LS Water Heater Lab App: <Company Name>
California Energy Commission
1516 Ninth Street, MS-25
Sacramento, CA 95814-5512

Test Methods

The water heater test methods set forth in Table F-2 in Section 1604(f)(2) are as shown in Attachment A to this letter.

Provision of Test Report

Section 1606(a)(3)(C) requires manufacturers of large storage water heaters to submit test reports upon which the manufacturer relies in filing certification information. It is expected that the format for all large storage water heater test reports issued throughout 2011 will not vary from the format used when applying for approval as a test laboratory. Should future test reports used for data certification vary significantly in format from those used for test laboratory approval, the improperly formatted test reports – and the validation submitted using those test reports – will be rejected as unacceptable.

Marking

Section 1607(b) requires that the manufacturer's name or brand name or trademark, model number, and date of manufacture, indicating (i) year and (ii) month or smaller (e.g. week) increment, be permanently, legibly, and conspicuously displayed on an accessible place on each unit. Section 1607(d) contains further federal marking requirements that apply to water heaters. Test reports must note whether the marking requirements have been met.

Submittal of Information (Certification) by Manufacturers

The submittal and approval of a test laboratory application does NOT affect the manufacturers' listings of appliance models in our database. Manufacturers of models

accurately listed in the database do not need to resubmit any information. However, if information about those models has changed, or if you have manufactured new models that are not yet in the database, you must submit new certification data.

Manufacturers wishing to verify the status of currently listed models may review their listing at the following link:

<http://appliances.energy.ca.gov/>.

If your model listing is not current, or you need additional certification forms and instructions, they can be found at:

<http://www.energy.ca.gov/appliances/forms/>.

A copy of the Energy Commission's *Appliance Efficiency Regulations* can be found at:

<http://www.energy.ca.gov/appliances/>.

The attached laboratory application may also be obtained at:

<http://www.energy.ca.gov/appliances/forms/>.

The Energy Commission is aware of statements in marketing literature stating or implying Commission approval of products or services. The Energy Commission does not endorse, favor, or recommend any particular product or service. Moreover, California law states that "It is unlawful for any person, firm, corporation, or association that is a nongovernmental entity to . . . solicit the purchase of or payment for a product or service . . . by means of a mailing, electronic message, or Internet Web site that contains a seal, insignia, trade or brand name, or any other term or symbol that reasonably could be interpreted or construed as implying any state or local government connection, approval, or endorsement," with exceptions not relevant here. (California Business & Professions Code section 17533.6.)

If you receive more than one copy of this letter (or similar letters), you are on multiple appliance mailing lists. It is not necessary to apply for the same test method more than once per calendar year. However, you must indicate all appliances that you wish to test with that test method at the time of your original application. If you have any questions you may contact appliance program staff at the address above or by email at:

appliances@energy.state.ca.us.

Sincerely,

Appliance Efficiency Program

Enclosures: 2011 Large Storage Water Heater Test Laboratory Application

PLEASE DO NOT INCLUDE A COPY OF THIS COVER LETTER WITH YOUR APPLICATION

ATTACHMENT A
Table F-2
Large Water Heater Test Methods

Appliance	Energy Efficiency Descriptor	Use Test setup equipment and procedures in subsection labeled "Method of Test" of	With these additional stipulations
Gas-fired Storage and Instantaneous Water Heaters and Hot Water Supply Boilers*	Thermal Efficiency	ANSI Z21.10.3-1998, §2.9**	<p>A. For all products, the duration of the standby loss test shall be until whichever of the following occurs first after you begin to measure the fuel and/or electric consumption: (1) The first cutout after 24 hours or (2) 48 hours, if the water heater is not in the heating mode at that time.</p> <p>B. For oil and gas products, the standby loss in Btu per hour must be calculated as follows: $SL \text{ (Btu per hour)} = S \text{ (\% per hour)} \times 8.25 \text{ (Btu/gal-F)} \times \text{Measured Volume (gal)} \times 70(^{\circ}\text{F})$.</p> <p>C. For oil-fired products, apply the following in conducting the thermal efficiency and standby loss tests:</p> <p>(1) Venting Requirements—Connect a vertical length of flue pipe to the flue gas outlet of sufficient height so as to meet the minimum draft specified by the manufacturer.</p> <p>(2) Oil Supply—Adjust the burner rate so that: (a) The hourly Btu input rate lies within ± 2 percent of the manufacturer's specified input rate, (b) the CO₂ reading shows the value specified by the manufacturer, (c) smoke in the flue does not exceed No. 1 smoke as measured by the procedure in ASTM-D-2156-80, and (d) fuel pump pressure lies within ± 10 percent of manufacturer's specifications.</p> <p>D. For electric products, apply the following in conducting the standby loss test:</p> <p>(1) Assume that the thermal efficiency (Et) of electric water heaters with immersed heating elements is 98 percent.</p> <p>(2) Maintain the electrical supply voltage to within ± 5 percent of the center of the voltage range specified on the water heater nameplate.</p> <p>(3) If the set up includes multiple adjustable thermostats, set the highest one first to yield a maximum water temperature in the specified range as measured by the topmost tank thermocouple. Then set the lower thermostat(s) to yield a maximum mean tank temperature within the specified range.</p>
	Standby Loss	ANSI Z21.10.3-1998, §2.10**	
Oil-fired Storage and Instantaneous Water Heaters and Hot Water Supply Boilers*	Thermal Efficiency	ANSI Z21.10.3-1998, §2.9**	
	Standby Loss	ANSI Z21.10.3-1998, §2.10**	
Electric Storage and Instantaneous Water Heaters	Standby Loss	ANSI Z21.10.3-1998, §2.10**	
<p>*As to hot water supply boilers with a capacity of less than 10 gallons, these test methods became mandatory on October 21, 2005.</p> <p>**Incorporated by reference, see 10 CFR 431.105 (2008).</p>			

California Appliance Efficiency Program
2011 Test Laboratory Application for Large Storage Water Heaters

Note: Your Completed Sample Test Report(s) must be included with this application.

This is a PDF fillable form. You may complete it on line or print it out and complete it off line. After it has been signed, you may scan and return it as an e-mail attachment to appliances@energy.state.ca.us, or return it via mail to:

Appliance Efficiency Program
2011 LS Water Heater Lab App: <Company Name>
California Energy Commission
1516 Ninth Street, MS-25
Sacramento, CA 95814-5512

PLEASE ALSO NOTE THAT:

- Applications that have been re-typed in your own format WILL NOT be accepted.
- It is not necessary, and may delay processing of your application, to submit both an email and a mailed application
- This application must specify the physical address of the location that will be conducting testing.
- Please allow at least four weeks during the heavy renewal period (November-March) before contacting us regarding your application.

Contact Person Name	Phone 1
Company / Laboratory Name	Phone 2
Address	Fax
(Address)	E-mail
(Address)	Company Website (URL)

Appliance Type(s): <input type="checkbox"/> Gas-fired Large Storage Water Heaters <input type="checkbox"/> Oil-fired Large Storage Water Heater <input type="checkbox"/> Electric Large Storage Water Heater
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Test method(s): ANSI Z21.10.3–1998, §2.9 and 2.10, with the following stipulations: <input type="checkbox"/> Stipulations A and B <input type="checkbox"/> Stipulations A and C <input type="checkbox"/> Stipulations A and D

_____ states:
Name of Laboratory

[Initial all appropriate paragraphs]

- _____ It has conducted tests using the applicable test method specified above within the previous 12 months;
- _____ It agrees to and does interpret and apply the applicable test method set forth in Section 1604 precisely as written;
- _____ It has, and keeps properly calibrated and maintained, all equipment, material, and facilities necessary to apply the applicable test method precisely as written;
- _____ It agrees to and does maintain copies of all test reports, and provides any such report to the Executive Director on request, for all basic models that are still in commercial production; and
- _____ It agrees to and does allow the Executive Director to witness any test of such an appliance on request, up to once per calendar year for each basic model.
- _____ Test reports issued to clients shall include statements of compliance or non-compliance of the minimum performance provisions shown in Section 1605.3(a), and the marking provisions in Section 1607(b).
- _____ Attached to this application is an example of a completed sample test report for a large storage water heater tested by this laboratory within 12 months prior to the date of this application, to demonstrate what and how information is provided.

I declare under penalty of perjury of the laws of the State of California, that:

All the information in this statement is true, complete, accurate, and in compliance with all applicable provisions of Sections 1601 – 1608 of Title 20 of the California Code of Regulations; and

(Continued on next page)

I am authorized to make this declaration, and to file this application, on behalf of

Name of Laboratory

Signature: _____ Date: _____

Typed Name and Title: _____

SPACE BELOW THIS LINE FOR CALIFORNIA ENERGY COMMISSION USE ONLY

The laboratory identified above is hereby approved for testing large storage water heaters for compliance with the requirements of the *Appliance Efficiency Regulations* from the date shown until December 31, 2011.

Date

BETTY CHRISMAN, Program Manager
Appliance Efficiency Compliance Program
for the Executive Director